

REMARKS

This is a full and timely response to the non-final Office Action mailed March 22, 2005. Claims 1, 3 – 5, 7 – 12, 14, 16 – 18, 20 – 29, 31 – 40, 42 – 52, 54 – 64, and 66 – 91 are pending. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I. Allowable Claims

Applicant greatly appreciates the Examiner's indication that claims 47, 59, and 78 – 81, 83 – 86, and 88 - 91 are allowed.

In the Response and Amendment to the First (Non-Final) Office Action, Applicant amended each of independent claims 1, 14, 26, 36, 48 and 60 to place these claims in condition for allowance. However, upon further consideration, claims 1, 14, 26, 36, 48 and 60, and their dependents were rejected under new grounds in the pending Office Action. Applicant submits that the former allowance was proper and that the new grounds of rejection are misplaced, as explained in detail below.

II. Claims 1, 7 – 9, 11 – 12, 14, 20 – 22, 24 – 26, 31 – 33, 35 – 36, 40, 42 - 43, 48, 52, 54 - 55, 60, 64, 66 - 67, 71 – 77, 82 and 87 are Patentable Over *Lin* in View of *Wei*

The Office Action rejects claims 1 – 2, 7 – 9, 11 – 12, 14 – 15, 20 – 22, 24 – 26, 31 – 33, 35 – 36, 40, 42 - 43, 48, 52, 54 - 55, 60, 64, 66 - 67, 71 – 77, 82 and 87 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,553,063 to Lin, *et al.* (“*Lin*”) in view of U.S. Patent No. 5,559,561 to Wei (“*Wei*”). For at least the reasons set forth below, the rejection should be withdrawn and the claims allowed.

Independent Claim 1

Applicant submits that independent claim 1 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 1.

For example, the Applicant respectfully submits that independent claim 1 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei* fails to disclose or otherwise teach “***receiving information associated with the destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver***” as recited in independent claim 1. The Applicant agrees with the conclusion reached in the Office Action that *Lin* “does not expressly teach the claimed step of ‘receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver’.” (Office Action, page 3).

However, the Office Action apparently alleges that the feature is obvious in that *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action concludes that “the channel condition metrics are based on a received symbol, and therefore, it would have been obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike *Lin* which receives information unrelated to a plurality of signal space constellation points, claim 1 recites the step of “receiving information associated with a destination transceiver, the information *relating to a plurality of signal space constellation points* supported by the destination transceiver.”

That is, *Lin* discloses at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, *responsive to channel conditions*.” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin* discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in claim 1. Rather, the transmitted information is apparently data completely unrelated to the signal space constellation points supported by the destination transceiver.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in independent claim 1. Accordingly, claim 1 should be allowed for at least the reason that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “*receiving information associated with the destination transceiver, the information relating to a*

plurality of signal space constellation points supported by the destination transceiver”

as recited in claim 1.

Even more, independent claim 1 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “***the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 1.

As to *Lin*, as discussed above, the alleged “information associated with the destination transceiver” is apparently information completely unrelated to the “plurality of signal space constellation points supported by a destination transceiver.” Furthermore, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘the information associated with the destination transceiver comprises a first lookup table and encoding an integer number of bits to a plurality of symbols involves the first lookup table’.” (Emphasis in original, Office Action, page 5).

However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 5). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer number of databit” (Office Action, page 5), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, page 5).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*, neither reference discloses, teaches, or suggests receiving information associated with a

destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 1.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other information alleged to relate to a plurality of signal space constellation points) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest receiving information associated with the destination transceiver, “***wherein the information associated with the destination transceiver comprises a first lookup table***.” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 1, *Wei* does not disclose or suggest transmitting information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 1.

Accordingly, independent claim 1 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest receiving information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 1. Furthermore, because independent claim 1 is allowable over the proposed combination of *Lin* and *Wei*, dependent claims 3 – 5, 7 – 12, and 71 – 72 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 1, from which they depend.

Independent Claim 14

The Office Action alleged “claim 14 is rejected on the same ground as for claim 1.” (Office Action, page 8). However, Applicant submits that independent claim 14 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 14.

For example, the Applicant respectfully submits that independent claim 14 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei* fails to disclose or otherwise teach “***means for receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver***” as recited in independent claim 14. The Applicant agrees with the conclusion reached in the Office Action that *Lin* “does not expressly teach the claimed step of ‘receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver’.” (Office Action, page 3).

However, the Office Action apparently alleges that the feature is obvious in that *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action concludes that “the channel condition metrics are based on a received symbol, and

therefore, it would have been obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike *Lin* which receives information unrelated to a plurality of signal space constellation points, claim 14 recites “means for receiving information associated with a destination transceiver, the information *relating to a plurality of signal space constellation points* supported by the destination transceiver.”

That is, *Lin* discloses, at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, *responsive to channel conditions*.” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin* discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in claim 14. Rather, the transmitted information is apparently data completely unrelated to the signal space constellation points supported by the destination transceiver.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “means for receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in independent claim 14. Accordingly, claim 14 should be allowed for at least the reason

that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “*means for receiving information associated with the destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver*” as recited in claim 14.

Even more, independent claim 14 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “*the information associated with the destination transceiver comprises a first lookup table*” as recited in independent claim 14.

As to *Lin*, as discussed above, the alleged “information associated with the destination transceiver” is apparently information completely unrelated to the “plurality of signal space constellation points supported by a destination transceiver.” Furthermore, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘the information associated with the destination transceiver comprises a first lookup table and encoding an integer number of bits to a plurality of symbols involves the first lookup table’.” (*Emphasis in original*, Office Action, page 8).

However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 8). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer number of databit” (Office Action, page 9), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, page 8).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*,

neither reference discloses, teaches, or suggests means for receiving information associated with a destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 14.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other information alleged to relate to a plurality of signal space constellation points) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest means for receiving information associated with the destination transceiver, “***wherein the information associated with the destination transceiver comprises a first lookup table***.” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 14, *Wei* does not disclose or suggest means for receiving information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 14.

Accordingly, independent claim 14 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest means for receiving information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first lookup table***” as recited in independent claim 14. Furthermore, because independent claim 14 is allowable over the proposed combination of *Lin* and *Wei*,

dependent claims 16 – 25 and 73 - 74 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 14, from which they depend.

Independent Claim 26

Applicant submits that independent claim 26 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 26.

For example, the Applicant respectfully submits that independent claim 26 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei* fails to disclose or otherwise teach “***a receiver adapted to receive information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver***” as recited in independent claim 26. The Applicant agrees with the conclusion reached in the Office Action that *Lin* “does not expressly teach the claimed step of ‘receiving information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver’.” (Office Action, page 3).

However, the Office Action apparently alleges that the feature is obvious in that *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action concludes that “the channel condition metrics are based on a received symbol, and

therefore, it would have been obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike *Lin* which receives information unrelated to a plurality of signal space constellation points, claim 26 recites “a receiver adapted to receive information associated with a destination transceiver, the information *relating to a plurality of signal space constellation points* supported by the destination transceiver.”

That is, *Lin* discloses at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, *responsive to channel conditions.*” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin* discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in claim 26. Rather, the transmitted information is apparently data completely unrelated to the signal space constellation points supported by the destination transceiver.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “a receiver adapted to receive information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver” as recited in independent claim 26. Accordingly, claim 26 should be allowed for at least the

reason that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “***a receiver adapted to receive information associated with a destination transceiver, the information relating to a plurality of signal space constellation points supported by the destination transceiver***” as recited in claim 26.

Even more, independent claim 26 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “***the information associated with the destination transceiver comprises a first look-up table***” as recited in independent claim 26.

As to *Lin*, as discussed above, the alleged “information associated with the destination transceiver” is apparently information completely unrelated to the “plurality of signal space constellation points supported by a destination transceiver.” Furthermore, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘the information associated with the destination transceiver comprises a first lookup table and encoding an integer number of bits to a plurality of symbols involves the first lookup table’.” (Emphasis in original, Office Action, page 11).

However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 11). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer number of databit” (Office Action, page 5), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, page 12).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*,

neither reference discloses, teaches, or suggests receiving information associated with a destination transceiver “***wherein the information associated with the destination transceiver comprises a first look-up table***” as recited in independent claim 26.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other information alleged to relate to a plurality of signal space constellation points) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest a receiver adapted to receive information associated with the destination transceiver, “***wherein the information associated with the destination transceiver comprises a first look-up table***.” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 26, *Wei* does not disclose or suggest a receiver adapted to receive information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first look-up table***” as recited in independent claim 26.

Accordingly, independent claim 26 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest a receiver adapted to receive information associated with the destination transceiver “***wherein the information associated with the destination transceiver comprises a first look-up table***” as recited in independent claim 26. Furthermore, because independent claim 26 is allowable over the proposed combination of *Lin* and *Wei*, dependent claims 27 – 29, 31 – 35 and 75 - 76 are allowable as a matter of law for at

least the reason that they contain all the features and elements of independent claim 26, from which they depend.

Independent Claim 36

Applicant submits that independent claim 36 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 36.

For example, the Applicant respectfully submits that independent claim 36 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei* fails to disclose or otherwise teach “***providing information associated with a source transceiver, the information capable of being used to determine a fractional bit rate,***” as recited in independent claim 36. The Applicant agrees with the conclusion reached in the Office Action that *Lin* “does not expressly disclose the receiver 24 provides information to the transmitter in figure 2.” (Office Action, page 13).

However, the Office Action apparently alleges that the feature is obvious in that, (as alleged with respect to claim 1) *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action concludes that “the channel condition metrics are based on a received symbol, and therefore, it would have been

obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike *Lin* which receives information unrelated to a fractional bit rate, claim 36 recites the step of “***providing information associated with a source transceiver, the information capable of being used to determine a fractional bit rate.***”

That is, *Lin* discloses at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, ***responsive to channel conditions.***” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin* discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “capable of being used to determine a fractional bit rate” as recited in claim 36. Rather, the transmitted information is apparently data completely unrelated to the fractional bit rate.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “providing information associated with a source transceiver, the information capable of being used to determine a fractional bit rate” as recited in independent claim 36. Accordingly, claim 36 should be allowed for at least the reason that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “***providing information associated with a source transceiver, the***

information capable of being sued to determine a fractional bit rate” as recited in claim 36.

Even more, independent claim 36 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “*the information comprises a first look-up table*” as recited in independent claim 36.

As to *Lin*, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘the information comprises a first lookup table’.” (*Emphasis in original*, Office Action, page 14). However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 14). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer number of databit” (Office Action, page 15), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, page 15).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*, neither reference discloses, teaches, or suggests providing information to a source transceiver “*wherein the information comprises a first lookup table*” as recited in independent claim 36.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other

information alleged to be capable of being used to determine a fractional bit rate) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest providing information to a source transceiver, “***wherein the information comprises a first lookup table.***” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 36, *Wei* does not disclose or suggest providing information “***wherein the information comprises a first lookup table***” as recited in independent claim 36.

Accordingly, independent claim 36 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest receiving information associated with the destination transceiver “***wherein the information comprises a first lookup table***” as recited in independent claim 36. Furthermore, because independent claim 36 is allowable over the proposed combination of *Lin* and *Wei*, dependent claims 37 – 40, 42 – 46 and 77 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 36, from which they depend.

Independent Claim 48

Applicant submits that independent claim 48 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 48.

For example, the Applicant respectfully submits that independent claim 48 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei*

fails to disclose or otherwise teach “*means for providing information to a source transceiver, the information capable of being used to determine a fractional bit rate,*” as recited in independent claim 48. The Applicant agrees with the conclusion reached in the Office Action that *Lin* “does not expressly disclose the receiver 24 in provides information to the transmitter in figure 2.” (Office Action, page 13).

However, the Office Action apparently alleges that the feature is obvious in that *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action concludes that “the channel condition metrics are based on a received symbol, and therefore, it would have been obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike the transceiver of *Lin*, which receives information incapable of being used to determine a fractional bit rate, claim 48 includes “means for providing information to a source transceiver, the *information capable of being used to determine a fractional bit rate.*”

That is, *Lin* discloses at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, *responsive to channel conditions.*” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin*

discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “capable of being used to determine a fractional bit rate” as recited in claim 48. Rather, the transmitted information is apparently data completely unrelated to the fractional bit rate.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “means for providing information to a source transceiver, the information capable of being used to determine a fractional bit rate” as recited in independent claim 48. Accordingly, claim 48 should be allowed for at least the reason that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “***means for providing information to a source transceiver, the information capable of being used to determine a fractional bit rate***” as recited in claim 48.

Even more, independent claim 48 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “***the information comprises a first look-up table***” as recited in independent claim 48.

As to *Lin*, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘the information comprises a first lookup table’.” (*Emphasis in original*, Office Action, page 17). However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 17). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer

number of data bits” (Office Action, page 17), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, pages 17-18).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*, neither reference discloses, teaches, or suggests means for providing information to a source transceiver “***wherein the information comprises a first look-up table***” as recited in independent claim 48.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other information allegedly capable of being used to determine a fractional bit rate) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest providing information to a source transceiver, “***wherein the information comprises a first look-up table.***” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 48, *Wei* does not disclose or suggest means for providing information “***wherein the information comprises a first look-up table***” as recited in independent claim 48.

Accordingly, independent claim 48 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest means for providing information to a source transceiver “***wherein the information comprises a first look-up table***” as recited in independent claim 48.

Furthermore, because independent claim 48 is allowable over the proposed combination of *Lin* and *Wei*, dependent claims 49 – 52, 54 – 58, and 87 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 48, from which they depend.

Independent Claim 60

Applicant submits that independent claim 60 is patentable over any combination of *Lin* and *Wei* for at least the reason that neither *Lin*, nor *Wei*, disclose, teach, or suggest every feature of claim 60.

For example, the Applicant respectfully submits that independent claim 60 defines over *Lin* and *Wei* for at least the reason that the proposed combination of *Lin* and *Wei* fails to disclose or otherwise teach “***a transmitter adapted to provide information to a source transceiver, the information capable of being used to determine a fractional bit rate***” as recited in independent claim 60.

The Applicant agrees with the apparent conclusion reached in the Office Action that *Lin* does not expressly disclose “a transmitter adapted to provide information to a source transceiver, the information capable of being used to determine a fractional bit rate.” However, the Office Action apparently alleges that the feature is obvious in that *Lin* allegedly discloses that “the predetermined integer number of databits contained in the transmission symbol is selectable, responsive to the channel condition” (Office Action page 3), and that “desirable metrics for the representation of a channel condition includes the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (*Emphasis in original*, Office Action, pages 3 – 4). Thus, the Office Action

concludes that “the channel condition metrics are based on a received symbol, and therefore, it would have been obvious to one of ordinary skill in the art that the received symbol is transmitted by a destination receiver.” (Office Action, page 4).

Thus, said another way, unlike *Lin* which allegedly receives information at a transmitter incapable of determining a fractional bit rate, claim 60 includes “a transmitter adapted to provide information to a source transceiver, ***the information capable of being used to determine a fractional bit rate.***”

That is, *Lin* discloses at most, that “the data channel can transmit both the desired information as well as undesirable channel noise that is imposed upon the data stream due to one or more channel conditions” (col. 3, lines 21 – 24), and that “the predetermined integer number of databits contained in the transmission symbol is selectable, ***responsive to channel conditions.***” (*Emphasis added*, col. 3, lines 42 – 44). Thus, at most, *Lin* discloses selecting the number of databits in a transmission symbol responsive to a channel condition derived from, for example, “the signal-to-noise ratio of the received symbol and/or the power of the noise in a received symbol.” (Col. 3, lines 51 – 54).

Accordingly, the underlying information transmitted in *Lin* is not “capable of being used to determine a fractional bit rate” as recited in claim 60. Rather, the provided information in *Lin* is apparently data incapable of being used to determine the fractional bit rate supported by the destination transceiver.

Additionally, *Wei* also does not disclose, teach, or suggest (and the Office Action does not allege *Wei* discloses, teaches, or suggests) “a transmitter adapted to provide information to a source transceiver, the information capable of being used to determine a fractional bit rate” as recited in independent claim 60. Accordingly, claim 60 should be

allowed for at least the reason that neither *Lin*, nor *Wei*, separately or in combination, discloses, teaches, or suggests “***a transmitter adapted to provide information to a source transceiver, the information capable of being used to determine a fractional bit rate***” as recited in claim 60.

Even more, independent claim 60 is patentable over the proposed combination of *Lin* and *Wei* for at least the additional and independent reason that neither *Lin*, nor *Wei*, discloses, teaches, or suggests that “***the information comprises a first look-up table***” as recited in independent claim 60.

As to *Lin*, as discussed above, the alleged “information” is apparently completely incapable of “being used to determine a fractional bit rate.” Furthermore, Applicant agrees with the Office Action that “*Lin, et al.* does not expressly teach the claimed limitation ‘*the information comprises a first look-up table*’.” (*Emphasis in original*, Office Action, pages 18-19).

However, the Office Action alleges that “*Wei*, in another U.S. Patent, teaches in figure 8 a fractional bit encoder 83, implemented as the lookup table of figure 9.” (Office Action, page 19). The Office Action apparently alleges that because *Lin* allegedly discloses having a “selectable predetermined integer number of databit” (Office Action, page 19), “one of ordinary skill in the art would have been motivated to implement a lookup table as taught in [sic] *Wei* invention.” (Office Action, page 19).

However, even assuming, *arguendo*, that one skilled in the art would have been motivated to implement a lookup table as disclosed by *Wei* in the transceiver of *Lin*, neither reference discloses, teaches, or suggests a transmitter adapted to provide

information to a source transceiver “*wherein the information comprises a first look-up table*” as recited in independent claim 60.

To summarize, *Lin* apparently discloses, at most, determining a fractional bit rate be used by a particular transceiver “responsive to channel conditions.” (col. 3, lines 42 – 44). However, *Lin* does not disclose transmitting this fractional bit rate (or any other information allegedly capable of being used to determine a fractional bit rate) to another transceiver. Thus, it follows that *Lin* does not disclose or suggest a transmitter adapted to provide information to a source transceiver, “*wherein the information comprises a first look-up table.*” Further, *Wei* discloses a fractional bit encoder 83 “implemented as the lookup table of FIG. 9.” (Col. 6, line 37). Even assuming, *arguendo*, that the lookup table of *Wei* is equivalent to the lookup table of independent claim 60, *Wei* does not disclose or suggest a transmitter adapted to provide information to a source transceiver, “*wherein the information comprises a first look-up table*” as recited in independent claim 60.

Accordingly, independent claim 60 should be allowed for at least the additional and independent reason that neither *Lin*, nor *Wei*, separately or in combination, disclose, teach, or suggest a transmitter adapted to provide information to a source transceiver, “*wherein the information comprises a first look-up table*” as recited in independent claim 60. Furthermore, because independent claim 60 is allowable over the proposed combination of *Lin* and *Wei*, dependent claims 61 – 64, 66- 69, 70, and 82 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 60, from which they depend.

Dependent Claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 – 43, 52, 54 – 55, 64, 66 – 67, 71 – 77, 82 and 87

The Applicant submits that dependent claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 – 43, 52, 54 – 55, 64, 66 – 67, 71 – 77, 82 and 87 are patentable over the proposed combination of *Lin* and *Wei* for at least the reasons set forth above with respect to their corresponding independent claims. Accordingly, claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 – 43, 52, 54 – 55, 64, 66 – 67, 71 – 77, 82 and 87 are allowable for at least the reason that they depend from their respective base claim, each of which are believed to be allowable as set forth above.

III. Claims 5, 18, 29, 39, 46, 51, 58, 63 and 70 are Patentable Over *Lin* and *Wei* in View of *Brownlie*

The Office Action also rejects claims 5, 18, 29, 39, 46, 51, 58, 63 and 70 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Lin* and *Wei* in view of U.S. Patent No. 5,493,586 to Brownlie (“*Brownlie*”). However, the Applicant submits that the rejection to dependent claims 5, 18, 29, 39, 46, 51, 58, 63 and 70 is rendered moot in light of the arguments made above and, therefore, claims 5, 18, 29, 39, 46, 51, 58, 63 and 70 are allowable as a matter of law for at least the reason that claims 5, 18, 29, 39, 46, 51, 58, 63 and 70 contain all the features and elements of their corresponding independent claims.

IV. Claims 10, 23 and 34 are Patentable Over *Lin* and *Wei* in View of *Eyuboglu*

The Office Action also rejects claims 10, 23 and 34 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Lin* and *Wei* in view of U.S. Patent No. 5,214,672 to

Eyuboglu (“*Eyuboglu*”). However, the Applicant submits that the rejection to dependent claims 10, 23 and 34 is rendered moot in light of the arguments made above and, therefore, claims 10, 23 and 34 are allowable as a matter of law for at least the reason that claims 10, 23 and 34 contain all the features and elements of their corresponding independent claims.

VI. Prior Art Made of Record

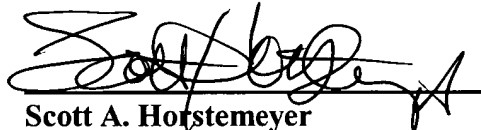
The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

The Applicant respectfully submits that all claims are now in condition for allowance, and request that the Examiner pass this case to issuance. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,


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